WHAT IS CLAIMED IS:

1. A scheme for transmitting an OFDM signal from a transmission side to a reception side, wherein

said OFDM signal includes both a data symbol having data therein, and a pilot symbol having a frequency component predetermined in amplitude and phase,

on said transmission side, said pilot symbol is inserted before or after one or more said data symbols, and is transmitted together with one or more said data symbols, and

on said reception side, the received pilot symbol is utilized for compensating a frequency response variation of a transmission path resulted from any one or more of distortion observed in the transmission path, out-of-synchronization with passage of time, frequency drift, and residual phase error.

2. The OFDM signal transmission scheme according to claim 1, wherein every subcarrier included in said pilot symbol is a pilot carrier predetermined in amplitude and phase.

3. The OFDM signal transmission scheme according to claim 1, wherein said pilot symbol is plurally and sequentially inserted before or after one or more said data symbols.

4. The OFDM signal transmission scheme according to claim

1, wherein said pilot symbol is periodically inserted before or after one or more said data symbols.

5. The OFDM signal transmission scheme according to claim 1, wherein said pilot symbol is non-periodically inserted before or after one or more said data symbols.

6. The OFDM signal transmission scheme according to claim 5, wherein, on said transmission side, said pilot symbol is adaptively changed in frequency and number for insertion depending on a state of the transmission path.

7. The OFDM signal transmission scheme according to claim 5, wherein, on said transmission side, said OFDM signal is provided with control information indicating how often said pilot symbol is inserted and how many.

8. The OFDM signal transmission scheme according to claim 1, wherein the frequency response variation of said transmission path is compensated by using a compensation vector calculated, as a time series linear approximation, from a difference in frequency response between any two pilot symbols closest to each other.

9. The OFDM signal transmission scheme according to claim

1, wherein the frequency response variation of said transmission path resulted from either one or both of said frequency drift and said residual phase error is compensated by using a value calculated, as a time series linear approximation, from a difference in phase between any two pilot symbols closest to each other.

10. The OFDM signal transmission scheme according to claim 1, wherein the frequency response variation of said transmission path is compensated by using an average value taken for a phase error among pilot carriers in said pilot symbol.

11. The OFDM signal transmission scheme according to claim 10, wherein said average value is calculated by weighing each amplitude value for the pilot carriers.

12. An OFDM signal transmitter for transmitting an OFDM signal towards a reception side, comprising:

a data symbol generator for generating an OFDM data symbol after inputting data for transmission;

a pilot symbol generator for generating an OFDM pilot symbol; and

a symbol selector for switching between signals provided by said data symbol generator and said pilot symbol generator so that said pilot symbol is inserted before or after one or more

said data symbols.

13. The OFDM signal transmitter according to claim 12, wherein said data symbol generator comprises;

a frequency-domain data symbol generator for generating a frequency-domain data symbol after inputting data for transmission; and

an inverse Fourier transformer for subjecting a signal provided by said frequency-domain data symbol generator to inverse Fourier transform, and

said pilot symbol generator comprises:

a frequency-domain pilot symbol generator for generating a frequency-domain pilot symbol; and

an inverse Fourier transformer for subjecting a signal provided by said frequency-domain pilot symbol generator to inverse Fourier transform.

14. An OFDM signal receiver for receiving, from a transmission side, an OFDM signal including a data symbol having data therein, and a pilot symbol having a frequency component predetermined in amplitude and phase and being inserted before or after one or more said data symbols, the receiver comprising:

a Fourier transformer for subjecting said received OFDM signal to Fourier transform;

a transmission path frequency response compensator for

detecting said pilot symbol from a signal provided by said Fourier transformer, and with respect to the signal, compensating a frequency response variation of a transmission path; and

a demodulator for receiving the signal compensated with the frequency response variation of said transmission path, and demodulating the signal to output as demodulated data.

15. The OFDM signal receiver according to claim 14, wherein said transmission path frequency response compensator calculates a compensation vector for compensation, by referring to a frequency response of a pilot symbol, a frequency response of another pilot symbol closest thereto, and a frequency response of a reference pilot symbol provided on a reception side, so that a frequency response of said received data symbol corresponds to that of said reference pilot symbol.

16. The OFDM signal receiver according to claim 15, wherein said compensation vector is calculated for every subcarrier included in said received data symbol by using every pilot carrier included in each of said pilot symbols.

17. The OFDM signal receiver according to claim 15, wherein said compensation vector is calculated as a time series linear approximation from the frequency response variation between any two pilot symbols closest to each other.

18. The OFDM signal receiver according to claim 14, wherein said transmission path frequency response compensator comprises:

a pilot symbol detector for detecting both a first pilot symbol being an arbitrary pilot symbol and a second pilot symbol transmitted after the first pilot symbol;

a first pilot symbol transmission path frequency response calculator for calculating a first pilot symbol transmission path frequency response by dividing a frequency response of said first pilot symbol by that of a reference pilot symbol provided on a reception side;

a second pilot symbol transmission path frequency response calculator for calculating a second pilot symbol transmission path frequency response by dividing a frequency response of said second pilot symbol by that of said reference pilot symbol;

a compensation vector calculator for calculating, after inputting said first and second pilot symbol transmission path frequency responses, a compensation vector for compensating the frequency response variation of said transmission path; and

a frequency response compensator for compensating the frequency response of one or more said data symbols after inputting said compensation vector.

19. An OFDM signal receiver for receiving, from a transmission side, an OFDM signal including a data symbol having data therein, and a pilot symbol having a frequency component

predetermined in amplitude and phase and being inserted before or after one or more said data symbols, the receiver comprising:

a Fourier transformer for subjecting said received OFDM signal to Fourier transform;

a phase compensator for detecting said pilot symbol from a signal provided by said Fourier transformer, and compensating the signal for either one or both of frequency drift and residual phase error; and

a demodulator for receiving the signal compensated with either or both of the frequency drift and the residual phase error, and demodulating the signal output demodulated data.

20. The OFDM signal receiver according to claim 19, wherein said phase compensator calculates a compensation value for compensation, by referring to a first difference between a phase of a pilot symbol and a predetermined phase, and a second difference in phase between any two pilot symbols closest to each other, so that a phase of said received data symbol corresponds to said predetermined phase.

21. The OFDM signal receiver according to claim 20, wherein said first and second differences are each calculated by using a phase average value calculated for every pilot carrier included in each of the pilot symbols.

22. The OFDM signal receiver according to claim 21, wherein said phase average value is calculated by weighing each amplitude value for said pilot carriers.

23. The OFDM signal receiver according to claim 20, wherein said phase compensation value is calculated as a time series linear approximation from a difference in phase between any two pilot symbols closest to each other.

24. The OFDM signal receiver according to claim 19, wherein said phase compensator comprises:

a pilot symbol detector for detecting both a first pilot symbol being an arbitrary pilot symbol and a second pilot symbol transmitted after the first pilot symbol;

a first pilot symbol phase difference calculator for calculating a difference between a phase of said first pilot symbol and a predetermined phase;

a pilot symbol phase difference calculator for calculating a difference in phase between said first pilot symbol and said second pilot symbol;

a phase compensation value calculator for calculating, after inputting the phase difference value calculated by said first pilot symbol phase difference calculator and the phase difference calculated by said pilot symbol phase difference calculator, a phase compensation value for compensating for the

frequency drift and the residual phase error; and

a phase rotator for rotating, in response to said phase compensation value, the phase of said one or more data symbols.

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